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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,909	08/09/2001	Takashige Ohta	70904-56377	4516

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EXAMINER

NGUYEN, JIMMY H

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/925,909	Applicant(s) OHTA ET AL.	
	Examiner Jimmy H. Nguyen	Art Unit 2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> . |

Continuation of Attachment(s) 6). Other: English translation of JP 10-326084.

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 07/26/2005.

Claims 1-7 and 9-24 are currently pending in the application. An action follows below:

Allowable Subject Matter

2. The indicated allowability of claims 10 and 22-24 is withdrawn in view of the new rejections follow.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features, "among power supply voltages supplied to the reference voltage chooser circuit, at least a power supply voltage is supplied to the buffer circuit via a first switch controlled through a first control signal" of claims 3 and 13 (see claim 3, lines 14-17 and claim 13, lines 23-26), "a reference voltage choosing pattern" of claims 7 and 17, and two **separate** decoder circuits of claims 9, 10, 19, and 20 (e.g., see claim 9, a decoder circuit in line 15 and another decoder circuit in line 24, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

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drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 2, 3, 5, 7, 13, 15, and 17 are objected to because of the following informalities:

As per claim 2, --of the-- must be inserted immediately after "two" in line 8, because there is sufficient antecedent basis for this limitation in the claim.

As per claim 3, --of the-- must be inserted immediately after "two" in line 11, because there is sufficient antecedent basis for this limitation in the claim and "through" in line 17 should be changed to --by-- in order to clarify the claimed invention.

As per claim 5, --and are-- should be inserted immediately before "from" in line 4, so as to clarify the first reference voltages are from external first reference voltage supply means and "through" in line 10 should be changed to --by-- in order to clarify the claimed invention.

As per claim 7, "through" in line 11 should be changed to --by-- in order to clarify the claimed invention.

As per claim 13, "through" in line 26 should be changed to --by-- in order to clarify the claimed invention.

As per claim 15, "through" in line 17 should be changed to --by-- in order to clarify the claimed invention.

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As per claim 17, “through” in line 18 should be changed to --by-- in order to clarify the claimed invention.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 3-7, 13, 14, 17, and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding to claims 3, 4, 13 and 14, the disclosure, when filed, does not fairly convey to one of ordinary skill in the art that applicants had in their possession the claimed feature, “among power supply voltages supplied to the reference voltage chooser circuit, at least a power supply voltage is supplied to the buffer circuit via a first switch controlled through a first control signal” (see claim 3, lines 14-17 and claim 13, lines 23-26). The original disclosure, specifically Fig. 1 and the corresponding description, discloses a first switch (41) allowing a power supply line (PW) supplied to a buffer (37); however, the power supply line (PW) is not supplied to the reference voltage chooser circuit (34). Further, the original disclosure, specifically Fig. 1 and the corresponding description, also discloses the second (VB2) power supply voltage supplied **directly** to the buffer (37) and then to the reference voltage chooser circuit (34); however, the

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second (VB2) power supply voltage is not supplied to the buffer **via a first switch (41)**.

Accordingly, the original disclosure does not contain such description and details regarding to the above underlined feature, so as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Also see the corresponding drawing objection above.

Regarding to claims 5 and 6, the disclosure, when filed, does not fairly convey to one of ordinary skill in the art that applicants had in their possession the claimed feature, “a voltage divider circuit for **selectively** providing the second reference voltage to the voltage chooser circuit via a buffer circuit” (see claim 5, lines 2-7). The original disclosure, specifically Fig. 1 and the corresponding description, discloses a voltage divider circuit (35) for providing the second reference voltage (VB2) to the voltage chooser circuit (34) via a buffer circuit (37); however, the voltage divider circuit (35) is not capable of **selectively** providing the second reference voltage (VB2) to the voltage chooser circuit. Further, the buffer circuit (37), rather than the voltage divider circuit (35), is capable of selectively providing the second reference voltage (VB2) to the voltage chooser circuit (34). Accordingly, the original disclosure does not contain such description and details regarding to the above underlined feature, so as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding to claims 7, 17 and 18, the disclosure, when filed, does not fairly convey to one of ordinary skill in the art that applicants had in their possession the claimed feature, “a decoder table is determined by the number of tones represented by the sampling signal” (see claim 7, lines 12-13 and claim 17, lines 19-20). There is no where in the original disclosure to

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disclose a decoder table determined by the number of tones represented by the sampling signal, so as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

7. Claims 7, 9, 10, and 17-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As per claims 7, 17, and 18, these claims contain the feature, “the reference voltage chooser circuit **changes a reference voltage choosing pattern** in response to an output of the decoder circuit” (see last two lines of claim 7 and last 3 lines of claim 17), which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The disclosure, specifically Fig. 1 and abstract, expressly discloses that a reference voltage chooser circuit for choosing one of incoming voltages in according with tones represented by an image signal; however, the reference voltage chooser circuit of the pending application is not capable of **changing** a reference voltage choosing pattern.

As per claims 9, 10, and 19-24, these claims contain two separate decoder circuits, e.g., in claim 9, a decoder circuit in line 15 and another decoder circuit in line 24, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, i.e., the locations of these two decoder circuits. The disclosure, when filed, specifically fig. 1, expressly discloses a single decoder circuit (33). Furthermore, these claims contain the feature, “at least any one of the

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first switch, the second switch, and the decoder for the decoder circuit is/are controlled for closure/opening or changed in accordance with the number ... image signal” (see last 4 lines of claims 9 and 19), which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, i.e., the disclosure does not disclose either the first and the switches controlled for changing or the decoder table controlled for closure/opening, in accordance with the number of tones represented by the image signal, as broadly read by the examiner.

8. Claims 7, 9, and 17-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 7, 17 and 18, it is not clear what the applicant means “the decoder circuit is controlled through a third control signal according to a decoder table”, as recited in lines 11-12 of claim 7 and lines 18-19 of claim 17, i.e., the decoder circuit is controlled in accordance with a decoder table or a third control signal according to a decoder table.

As per claims 9 and 19-21, the phrase "closure/opening" renders the claim indefinite because it is unclear that either “closure or opening” or “closure and opening” is part of the claimed invention.

9. It is noted applicants that due to the above 112 rejections, the following art rejections are based as best understood by the examiner.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 2, 7, 11, 12, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanatani et al. (US 5,414,443) hereinafter Kanatani.

As per claims above, the claimed invention reads on the Kanatani reference as follows:

Kanatani discloses an image display device (an active matrix LCD apparatus as shown in Fig. 5) comprising pixels (Fig. 5, col. 12, line 28); signal lines (signal electrodes 102, Fig. 5); scanning lines (101) (Fig. 5); a scan signal line drive circuit (300) for supplying scan signals to the scan lines for a vertical scan; and a signal line drive circuit (a circuit including a source driver 2 and a voltage signal supply 7, see Fig. 5) including a sampling circuit (a circuit including elements 20 and 30, Fig. 5) for sampling an image signal (digital video signal, Figs. 5 and 6) so as to generate a sampling signal (outputs of memory 30, Fig. 5 or 6) representative of the number of tones contained in the image signal; a reference voltage chooser circuit (a circuit including elements 55, 72 and 76, see Fig. 7) for choosing an output in accordance with tones represented by the sampling signal; a decoder circuit (a circuit including elements 40 and 60, see Figs. 6 and 7) for controlling the reference voltage chooser circuit (55, 72, 76), in accordance with the sampling signal, to supply signal line drive signals to the signal lines (see Fig. 7); reference voltage transmission means for directly transmitting the first reference voltages (VCC, VDD) from external voltage supply means (see Fig. 7); a voltage divider circuit (a circuit including resistors R0-R7, see Fig. 7); and a buffer circuit (a circuit including buffers 71 and 75, see Fig. 7, col. 11, lines 5-17) for producing a second reference voltage (e.g., +V6, see Fig. 7). Kanatani further teaches the decoder circuit (40, 60) controlled by a third control signal (a latch strobe signal LS,

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see Fig. 6 or 7) and using an inherent decoder table for converting the sampling signal to signals controlling the reference voltage choosing circuit (see Fig. 7) and the reference voltage chooser circuit selecting a reference voltage choosing pattern in response to an output of the decoder circuit. Accordingly, the elements in these claims are read in the Kanatani reference.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3-6, 9, 13-16, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanatani, and further in view of Hisashi (JP 10-326084, see the attached English translation as a reference), hereinafter Hisashi.

As per claims above, as discussed in the above rejection under 35 USC 102, Kanatani discloses all the claimed limitations of these claims except for a first switch of claims 3, 4, 9, 13, 14, and 19-21, a second switch of claims 5, 6, 15, and 16 and a setup circuit of claim 20.

However, Hisashi discloses a related display device comprising a signal line drive circuit which includes a plurality of switches (SW0-SW15) (see Fig. 1), each associating with each buffer of a buffer circuit (a circuit including a plurality of buffers as shown in Fig. 1) and capable of turning on and off the power supply (VDD1) supplied to the associate buffer in according with a control signal from a setup circuit included in a gray scale conversion/buffer control circuit (12), thereby controlling the switches in accordance with the number of tones represented by the image signal. See paragraph 0009 of the English translation. It would have been obvious to a

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person of ordinary skill in the art at the time of the invention was made to provide the switches and a setup circuit in the Kanatani display apparatus, in view of the teaching in the Hisashi reference, because this would reduce power consumption of the apparatus, as taught by Hisashi (see Abstract).

Response to Arguments

14. Applicant's arguments in the amendment filed 07/26/2005, on pages 20-25, with respect to the rejection to claims 1-7, 9, and 11-21 in the Office action dated 05/04/2005 have been considered but are moot in view of the new ground(s) of rejection above.

15. In response to the applicants' argument that the examiner has failed to re-acknowledge Applicants claim for foreign priority and to reconfirm the drawing approval, see pages 18-19 of the amendment, since the acknowledgement of the foreign priority and the drawing approval are made in the Office Action dated 8/11/2004, i.e., in the record, there is no need to re-acknowledge and to reconfirm in every Office Action.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675.

The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

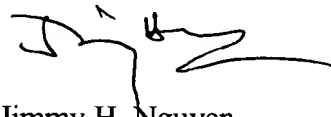
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHN
January 9, 2006



Jimmy H. Nguyen
Primary Examiner
Art Unit: 2673